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NATIONAL ADJUSTMENTS TO CHANGES IN FISHERIES LAW AND ECONOMIC CONDITIONS: A Synopsis of 26 case studies

by

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Rome, March 1985

PREPARATION OF THIS PAPER

This document is an analysis of 26 country studies which were prepared as part of the preliminary work for the World Conference on Fisheries Management and Development. These studies concerned three major topics, the adjustments resulting from extended jurisdiction, resource limitations and recent changes in international economic conditions. A selection of eight of these studies will be published as a separate document.

ABSTRACT

This paper discusses recent changes in fisheries. The information was derived from a review of case studies submitted in preparation for the World Conference on Fisheries Management and Development. The discussion groups the countries in five categories based on communality of problems and opportunities in response to the extension of jurisdiction, the appearance of resource limitations and world economic conditions. It also includes some discussion of national strategies. The five categories are: distant water States; coastal States with existing significant national capacity; coastal States with moderate national capacity and resources to exploit; coastal States with fully exploited resources domestically; and small developing Island States.

W/R 3697

For bibliographic purposes this document should be cited as follows:

Cleveland, B.C., National adjustments to changes in fisheries law and economic 1985 conditions: a synopsis of 26 case studies. FAO Fish.Circ., (783):22 p.

FAO Fisheries Circulars (FAO Fish.Circ.)

A vehicle for distribution of short or ephemeral notes, lists, etc., including provisional versions of documents to be issued later in other series

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I. INTRODUCTION

Significant changes have taken place in world fisheries in the past two decades. In recognition of this, FAO held a World Conference on Fisheries Management and Development from 27 June to 6 July 1984. As part of the preparation for this Conference, FAO requested studies from 26 States on how they had adjusted to the extension of jurisdiction, the appearance of resource limitations and changes in international economic conditions. This paper summarizes the effects of these three developments as presented in the case studies. It deals only with these 26 coastal States and thus is not fully representative of all situations. Further, it is based solely on the information submitted by these coastal States.

First, it may be useful to present a brief discussion of the nature of the fisheries industry and of the alterations in the fisheries environment which have occurred over the past two decades.

II. THE INDUSTRY

The fishing industry relies upon a resource to which there has traditionally been free and open access. Because of this freedom of access, attitudes - both public and private - towards fisheries development have generally been expansionary. Fisheries development has often led to biological overexploitation resulting in depletion of the stock and/or economic overexploitation leading to overcapitalization. Although there have been many varied attempts to manage the resources, the benefits have frequently been eroded by an influx of additional and redundant capital and labour. Conflicts between social and economic goals can further complicate public management schemes since efforts to assist fishermen often lead to overcapitalization and resource depletion.

Partly because of freedom of access and difficulties involved in achieving effective management schemes, the industry tends to be characterized by a high level of risk. But other factors also contribute to this risk. Uncertainty derives from the nature of the resource because of stock fluctuations which may be seasonal or yearly. The resource may essentially disappear for a time as a result of a natural event such as El Nino. This uncertainty of supply leads to a tendency to increase effort to maximize catches when the yields are high.

Risk also derives from market uncertainty. A good year in one area will attract more investment with the potential of driving down catch rates and/or prices. A bad year for one species may be a good one for another that is competitive. A change in the supply of other protein sources may affect fish prices. International economic conditions affect trading patterns and national economic conditions affect prices. The result is that the fishing industry tends to have a weak financial structure, making it highly vulnerable to changes in world and national economic conditions.

III. THE CONTEXT OF THE EXTENSION OF JURISDICTION

During the 1960's several factors were emerging leading to the development of the new regime of the law of the sea. This was a period of economic boom; fish prices were high and demand was rising. There was growth in domestic fishing industries and also in distant water efforts. The expansion of the distant water fleets and their presence close to coastal States led to ideas of extending national jurisdiction to prevent foreigners from taking the resources and depleting them. This was a period when many nations achieved their independence and nationalism was a strong force.

In addition, there was increasing awareness of resource limitations. There were problems with the depletion of cod in the North Atlantic; the anchoveta had literally disappeared off the coast of Peru and Chile; halibut and salmon were already regulated in the Pacific. Overall, catch increases which were high in the 1960's dropped in the 1970's.

The discussions surrounding the Third United Nations Conference on the Law of the Sea (UNCLOS) during the sixties and seventies were accompanied by momentum toward the extension of authority to manage the resources. This had varied effects on coastal States. For many, it re-inforced the momentum for the development of domestic capacity and for some it initiated or accelerated the process of joint agreements. Benefits resulted but they were varied depending on the state and nature of the resource and existing national capacity. For distant water nations, the extension of jurisdiction and resource limitations generally had a significant negative effect.

Whatever the benefits to be derived or lost, the fisheries in all these nations were affected by the international economic conditions. Fuel price increases, a problem in themselves for fisheries, contributed to domestic inflation and international recession. Once again, the effects varied from country to country but there was a definite negative impact in all cases.

IV. THE DIFFERENT EFFECTS

The 26 countries which submitted case studies have been placed in five categories based on the commonality of opportunities and problems encountered as a result of the extension of jurisdiction, resource limitations and international economic conditions:

(i) Significant Negative Effect - distant water nations (Spain, Portugal, The Republic of Korea, Cuba, Japan, Poland and Ghana.)

(ii) Moderate Positive Effect - coastal States with existing significant national capacity (Canada, U.S., Norway).

(iii) Significant Positive Effect - coastal States with moderate national capacity and resources to exploit (Chile, Peru, Ecuador, Argentina, Mexico, Morocco, The Gambia, Senegal, Sierra Leone, Congo, Australia and New Zealand).

(iv) Neutral Effect - coastal States with already fully exploited resources domestically (Philippines, Malaysia, Bangladesh).

(v) Significant Positive Effect - Small developing island States (Kiribati).

V. CATEGORY I - DISTANT WATER STATES

The extension of jurisdiction has had a significant negative impact on distant water fishing States. The States included in this category in this study are Spain, Portugal, The Republic of Korea, Cuba, Japan, Poland and Ghana.

The fisheries industries in these countries provide for established domestic markets and important export industries. In addition, fisheries generate employment - in the fleet and, to varying degrees, in ancillary industries. The existing domestic resources in these countries are either fully-exploited or over-exploited. In both Cuba and Spain, two-thirds of the catch comes from the distant water effort; in Spain, one-half of the employment in the fisheries sector is connected to the distant water effort.

A. SIGNIFICANT DEVELOPMENTS

1. Extension of Jurisdiction

The establishment of EEZs by many nations in the later 1970's ended free and open access to what distant water fishing nations view as a resource they can efficiently and rationally exploit. As a part of the boom in fisheries in the late 1960's, the distant water fleets had expanded their efforts. As access to various resources became restricted, distant water nations began to experience overcapacity. In 1983, after some retrenchment, the Polish fleet had capacity to harvest five times the resources available within the Polish EEZ. Cuba between 1968-70 purchased 90 new vessels and 30 freezer ships for the shrimp fleet which extracted a primarily foreign resource - which ceased to be available after 1979.

In response to the extension of jurisdiction, the distant water fishing States pursued three strategies.

First they attempted to negotiate access to traditionally known fishing areas. These agreements were often viewed as short term by the coastal States, a temporary measure until they could develop their own national capacity. Among the benefits coastalStates derived from the agreements were utilization of their landbased processing facilities which tended to be underutilized, fees, training, etc. As a part of these agreements, various regulations were imposed aimed at resource conservation. Unfortunately, in some cases, these rules had an effect contrary to that intended, e.g., limiting the number of fishing days resulted in intensive fishing within the time period allowed with no limit on the quantity taken. Some misunderstandings arose and there was potential for abuse as some of the coastal States had limited enforcement capability. Several initial agreements were renewed only after protracted negotiations and with lower quotas and more requirements for technology and skills transfer. In some cases, agreements were not renewed. In all cases these agreements have not provided a stable base on which distant water States could plan future fisheries efforts.

A second strategy was to find new untested areas to fish - both within other EEZs and on the high seas. The first part of this strategy had all the attendant problems of fishing agreements, but in some cases was encouraged by coastal States who wished to have exploratory fishing in their zones. Fishing the high seas presented other problems. Sometimes this meant areas adjacent to EEZs which led to concerns by coastal States about the effect on resources within their EEZs. More often it meant the expenditure of time and effort searching for new areas where there might be economically exploitable fish.

A third strategy was to return to domestic waters. This led to additional pressure on limited resources and conflict between the distant water and local fleets. The Cuban shrimp fleet which had grown from 265 vessels in 1974 to 386 in 1977 was down to 242 in 1982 as the domestic resource could not support the level of effort for which the Cuban fleet had capacity. In Japan, vessels and crews were retired. Spain, Portugal and Ghana all experienced problems of a similar nature.

2. Economic Conditions.

Accompanying these dislocations were increasing costs of operation particularly for fuel which is a major cost component of the fishing industry. The cost increase for fuel in Poland between 1970 and 1983 was 700% contributing to an overall cost increase of 126%; in The Republic of Korea, between 1970 and 1980, even with government subsidy, the cost of

fuel increased by a factor of 13 contributing to an overall cost increase of 314%. These cost increases occurred at a time when distant water fishing States were going farther from home ports to fish in new untested areas. The average distance travelled by the Polish fleet went from 4 033 nautical miles in 1975 to 6 690 in 1978 to 7 659 in 1980 to 8 242 in 1983.

In addition, both wages and interest rates were rising. Japanese fisheries were severely affected - having weathered the first oil crisis when fish prices were still rising, additional investment was made in the tuna fleet. Stagnating prices for tuna in 1980 caused a serious crisis. Other countries whose economies were more fragile were more severely affected. The Ghanaian fishing industry is dependent on imports for 80% of its inputs. The price of fuel increased by a factor of 5 between 1975 and 1980. In addition,severe balance of payments problems and lack of foreign exchange had a definite negative effect.

3. Combined effect of extension of jurisdiction and economic conditions.

Thus the distant water fishing nations had to adjust to a new environment starting in the mid-70's. The effects of extension of jurisdiction and the international economic crises occurred in two waves in the 70's. Distant water nations were first affected by cost increases and newly declared EEZs. Then in the late 70's they were affected by more cost increases plus additional problems in re-negotiating fishing agreements and negotiating access to more newly declared EEZs. The net effect of this changed environment was a significant decrease in the quantity of catch, a change in the composition of the catch and changes in the composition of the fleets.

a) Quantity of Catch

For the Polish fleet, the catch in the last years (1975-8) of open access to the NE Atlantic, NW Atlantic, Central and East Atlantic and SE Atlantic was 679 500 tons (live weight). In 1983, the catch from this area was 128 300. Catch in the NE Pacific and SE Pacific declined from an open access total of 326 600 tons to 53 700 in 1983. The catch of the Portuguese distant water fleet landed in continental Portuguese harbors decreased from 231 280 tons in 1969-71 to 99 000 tons in 1981 - a decrease of 57%. The Republic of Korea's distant water catch decreased from 724 400 tons in 1976 to 527 800 tons in 1982. The catch of the Japanese deepsea fishery dropped from 3 429 000 tons in 1970 to 3 168 000 in 1975 to 2 121 000 in 1980. The Ghanaian distant water catch dropped from 49 300 tons in 1977 to 23 600 in 1978 (a 50% decrease) and 12 900 in 1982.

Cuba eliminated its distant water shrimp operations completely after 1979. Its trawler fleet, after a set-back in 1979, is now producing catches at the same levels as in 1976-77 although this represents a significant reduction in the rate of growth.

b) Composition of Catch

In addition to the decrease in quantity of fish taken, the composition of the catch changed, often resulting in catches of lower value species and effects on the domestic market. The composition of the Polish catch has changed from cod, hake and herring to blue whiting, horse mackerel and squid. While the fleet has been successful in regaining catch levels, the value has steadily decreased from US$ 234.6 million (1979 prices) in 1975 to US$ 209.4 (1979 prices) in 1983. In addition, there were problems in domestic market acceptance of the latter products.

The Japanese take of Alaska pollack which rose from 2 346 000 tons in 1970 to 2 677 000 in 1975 dropped to 1 552 000 in 1980. This species had constituted a major portion of the Japanese distant water catch. The decreased supply led to higher prices and lower consumption; a high percentage of the processing capacity for this species is idle. While an increase in the sardine catch, largely in domestic waters, has kept Japanese catch figures high, in terms of tonnage, 80% of this species is used for fish meal. Finally, Japanese imports of high quality fish have increased.

Cuba lost shrimp as a component of its distant water catch. Cod became too expensive for its traditional Portuguese market; however, the fishing industry did find a domestic market for the canned fish it could not export. For Spain, the catch composition shifted away from crustaceans and molluscs toward more fin fish.

Ghana developed a market for trigger fish and anchovy from domestic waters when seabream, grouper and hake were no longer available due to EEZ limitations and overfishing of the local resource.

c) Fleet composition

A final effect of the extension of jurisdiction accompanied by cost increases was a change in the composition of the fleets of the distant water States. In Spain, the government encouraged the sale and scrapping of vessels to reduce the trawler fleet in the EEC and Moroccan waters and to allow for an increase in the freezer/trawler-freezer fleet. In 1982, 60 vessels were exported, 18 wrecked and 53 scrapped; there were 48 new constructions. The steady investment in the Polish fleet stopped in 1977 with a freeze on new orders. Scrapping was accelerated for old boats. Three new prototypes were constructed. The capital out-put ratio rose from 1.24 in 1975 to 3.20 in 1982.

The Korean fleet was reduced from 878 vessels in 1976 to 646 in 1982 and to 630 in 1983. In addition the fleet moved away from smaller toward more economic medium size vessels. In Japan, the government supported boat and crew retirement programmes; there was a 20% reduction of the tuna fleet in 1981-2. In Cuba, the distant water shrimp fleet was laid off or regeared; experimentation was begun on new designs for bottom long-line vessels and technological changes were necessary to process mackerel instead of hake. In Ghana, the distant water fleet was reduced from 16 vessels in 1977 to 12 in 1982; 8 of these 12 are currently operating within the Ghanaian EEZ.

B. NATIONAL STRATEGY

Despite the negative impact of the extension of jurisdiction on the distant water fishing States, Spain, The Republic of Korea, Cuba, Poland and Ghana all plan to continue the efforts of their distant water fleets. They plan to do this through agreements with coastal States and by fishing on the high seas. In addition, Spain, Portugal, The Republic of Korea, Cuba, Japan and Ghana all intend to improve the management of fisheries within their own EEZs. Japan, Cuba, The Republic of Korea and Ghana are pursuing the development of resources through aquaculture and in some cases (Korea, Cuba) development of inland resources. Cuba, Japan and Portugal are attempting to increase the value added to their products by higher processing. Japan is working on developing new products through processing. Cuba has developed domestic capability in boat building and repairs.

VI. CATEGORY II - COASTAL STATES WITH SIGNIFICANT EXISTING NATIONAL CAPACITY

The effect of the extension of jurisdiction on the U.S., Canada and Norway was positive in that it meant a reduction or elimination of foreign competitors within these nations' EEZs. However, limitations in the resource and overcapitalization have seriously eroded many of the benefits to be derived from the extension of national sovereignty.

All of these countries have significant domestic fishing capacity. The importance of the fisheries industries tends to be on a regional basis - generating income and employment in specific areas. In addition, in Canada, while fisheries are a small part of the national economy, two-thirds of the catch is exported and this export is the third ranking earner of foreign exchange. Exports are also significant for Norway, involving 90% of the national catch.

A. SIGNIFICANT DEVELOPMENTS

1. Extension of Jursidiction

The U.S. declared an EEZ in 1976. Since that time the U.S. percentage of the harvest in terms of tonnage within the EEZ has increased. It has also increased in value from US$ 1 349 million in 1976 to US$ 1 527 million in 1982 (constant dollars), as the U.S. fleet tends to concentrate on the more profitable species. Exports have increased as has domestic supply. The most positive effect of the declaration was probably in the EEZ waters off Alaska. However, there are indications that the health of selected traditional fisheries has not improved since the extension.

Canada declared its EEZ in 1977. At the time there was an awareness of serious resource management problems and overcapitalization in the fisheries of both coasts. Nevertheless, the assertion of national sovereignty accompanied a certain momentum for new investment in the Atlantic and, to a lesser extent, the Pacific fisheries. Norway declared its EEZ in 1977. The effect was to slow down the deterioration of the stocks.

2. Resource Limitations and Overcapitalization

At the time of extension of jurisdiction, all of these countries were aware of resource limitations and had some experience with attempts at controls over resource exploitation. In the U.S., shellfish, salmon and Pacific halibut were already regulated. The declaration provided further protection for the fin fish off New England.

Canada had experience with attempts at resource conservation through ICNAF. In addition, there had been resource enhancement and management schemes in the Pacific salmon fishery where the stocks were depleted.

Norway had participated in multinational negotiations on quotas for cod, capelin, mackerel and herring. The declaration of the EEZ shifted these management negotiations to the bilateral rather that the multilateral level.

These conservation efforts have tended to have limited effect and what effect they have had has tended to be eroded by overcapitalization. In Canada over the last 10 years, while fisheries production has remained static, the value has increased 80% (in constant dollars). Unfortunately, overcapitalization has reduced the benefits of the increases in gross revenues. The system of input controls for the regulation of effort - due to "the infinite evasive ingenuity" of the fishermen - became increasingly complex and thereby overly costly as well as failing to stifle the impetus

to more investment. Following the extension of jurisdiction and opportunity for the exploitation of new resources it is currently estimated that the level of excess capacity is now down to 60% in the Atlantic fishery. In the Pacific fishery, although management have been partially effective, the level of excess capacity efforts is still estimated at 400%. Canada is now experimenting with quasi property rights systems.

In Norway, it is too early to see if the conservation measures have been effective. However, the current policy of State income support and past policy of allocating quotas to small and medium sized vessels rather than more efficient large ones has insulated the industry from economic realities and encouraged overcapitalization.

3. Economic Conditions

In this situation of limited resources and overcapitalization and, in the case of Canada and Norway, dependence on an export market, the economic problems of the mid 70's had a major impact. Canada and Norway have described their industries as being in crisis.

In Canada, there were problems which were recognized in the fishing industry prior to the first fuel price increases. Unfortunately, the momentum for more investment which accompanied the declaration of the EEZ made the effect of the second economic crisis even worse.

In Norway, oil revenues from the North Sea increased income levels and generated inflation. Unit costs went up and fish products became less competitive. In addition, the value of the currency rose in the international market creating exportproblems. While the fleet does not have to travel great distances to the fishing grounds, fuel prices also presented a problem for the trawlers and, to a lesser extent, the purse seiners.

In the U.S. there was a 73% increase in input prices between 1976 and 1982. The health of selected industries showed a decline as product prices did not increase fast enough to offset the effects of increased input prices and lower productivity.

B. NATIONAL STRATEGY

At present in the U.S., there is some room for the industry to grow because the U.S. is a major importer of seafood and because foreign fleets still harvest a substantial portion of the catch within the EEZ. However, it is possible that the unhealthy state of the industry in some regions may impede achievement of significant benefits from these opportunities.

In Canada, experiments with quasi property rights systems are being undertaken. However, the existing overcapacity could make the prospect of implementing any management system very painful for those regions where fisheries are a major source of employment. Private and public efforts are being made to improve the export marketing system.

One method of opening up the export market has been used by both Canada and the U.S. In exchange for the right to fish their EEZs, the foreign fishing States must agree to more open markets for the domestic fishery product of the EEZ States.

In Norway, there is a continuing recognition of the importance of social goals. However, there have been some policy changes. A scrapping programme has been introduced. Export controls have been relaxed. The development of fish farming on a private basis has been encouraged. Shrimp trawling has begun but possibly unnecessary subsidies in this activity have resulted in exceptional levels of income and stimulated more participation in the fishery. While a total quota system is not yet needed, there has been some regulation due to by-catches.

Thus the net effect of extension of jurisdiction on these three countries has been moderate. The fishery industries in all three countries are characterized by overcapitalization, reducing potential net benefits from control of the resources. In addition, overcapitalization makes these countries highly vulnerable to economic crises such as occurred in the 70s. There have been limited attempts to reduce this overcapitalization but the conflict between social and economic goals is unresolved.

VII. CATEGORY III - COASTAL STATES WITH RESOURCES TO EXPLOIT AND MODERATE NATIONAL CAPACITY

The effect of the extension of jurisdiction on coastal States with resources to exploit has been significant and positive. It has resulted in the development of national capacity to harvest and to manage the resources in the extendedzones and to derive benefits from agreements negotiated with foreigners. The coastal States included in this category are Argentina, Chile, Peru, Ecuador, Mexico, Senegal, The Gambia, Congo, Sierra Leone, Morocco, Australia and New Zealand.

Fisheries are important to all of these countries for various reasons. For some countries exports are very important. Fisheries exports are second to oil in foreign exchange earnings in Ecuador. Australia exports two-thirds of its catch. The African countries tend to be high per caput consumers of fish and depend on fish as a major source of protein. In addition, the fisheries sector can be a significant source of employment as in Mexico and several other countries.

A. SIGNIFICANT DEVELOPMENTS

1. Extension of Jurisdiction

The effect of the extension of jurisdiction in all of these countries was expansion, both public and private. While in most cases, there already were some subsidies in the fisheries sector, the extension of jurisdiction often resulted in more public activity reflecting the desire to benefit from the resources now under national control. In addition, there was an increased public role because of the coastal States' responsibility to manage the resources. National fisheries development plans were drafted, national capacity increased, new policies allowed for joint agreements or the process of joint ventures was accelerated. All of this tended to result in increased catches.

In Argentina, the extension of jurisdiction came at the same time as a change in administration. A new policy was adopted which allowed for joint ventures. Agreements were signed with Spain, Germany and Japan. A development plan for fisheries was drafted to solve the under employment and idle capacity problems in the sector. The aims of the plan were to increase activity, to fully utilize existing capacity, to develop a new port to decentralize the fishing industry, to extend the range of effort to the full zone and to diversify the catch. Using existing capacity, Argentine fisheries exports reached US$ 48.5 million in 1976, a doubling of the previous year's value. In 1976, activity increased in investments leading to vessel purchases and increased processing capacity. Forty-one projects worth US$ 300-400 million were approved; 26 of them included foreign investors. In addition, private investments worth US$ 200 million were made to renovate plants and vessels. A result was that between 1976 and 1979, 63 vessels were added to the national fleet, including 18 freezer vessels and 16 factory ships. Between 1976 and 1979, high seas fleet landings increased. In 1979, exports reached 214 000 tons of frozen fish worth US$ 195 million. Total fisheries exports were 249 000 tons worth US$ 214 million. This reflected an increase in the exports of higher value commodities.

Chile, Peru and Ecuador were all signers of the Santiago Declaration in 1952 which established extended zones. In Chile, in the late 1970's, the government reduced controls over theprivate sector permitting rapid growth. In addition, a new policy allowed for joint ventures with foreigners. In Ecuador, the hold capacity of the fleet increased from 22 210 tons in 1975 to 36 038 in 1980.

In Mexico, the extension of jurisdiction served as a stimulus to expansion. There was already a good base and the extension reflected a new awareness - both public and private - of the potential of fisheries. The tuna fleet consisted of 19 vessels in 1970. By 1982 it had grown to 70, many of which were both larger and Mexican built. The sardine fleet had 60 units in 1970, 75 in 1976 and 132 in 1982. The new units emphasized refrigeration leading to a more valuable product for human consumption rather than for processing into fish meal. In addition medium-sized trawlers and seiners were added to the fleet. The "scaled fish" fleet also increased; the larger sized vessels from 30 units in 1976 to 300 in 1982 and small-scale units increased to 8 000. The shrimp fleet also grew (2 226 to 2 886 units). Ten new fishing ports were constructed, new quays were built and existing ones expanded and cold storage capacity was increased as was processing capacity to cater to the expanding fleet. Infrastructure was also improved in small fishing communities. The estimated employment related to fisheries grew by 69% between 1976 and 1982. Fish production rose from 334 000 tons in 1970 to 628 000 in 1976 to 1 565 000 in 1981.

In the CECAF area, generalizations are difficult because of the diversity of situations. Nevertheless, there was a general acceleration of the trend toward special arrangements with foreigners with more requirements for local landing. This was accompanied by the development of locally-based catching, processing and export industries in some of the countries. Recent catch figures estimate a total landed weight in the area as a whole of 3.5 million tons of which foreigners take 2 million. The total value of landings is estimated at US$ 1.4 billion of which 33% is caught by the local States.

In The Gambia, there were increases in both the domestic and foreign fleets. In The Congo, where the Spanish fleet has fished for shrimp, the plan is to develop national capacity for this fishery as well as to increase the capacity of the small-scale fleet. Senegal, after some inital problems with infrastructure development, is assisting its small-scale fleet and moving to modernize its industrial fleet. In Sierra Leone, many licenses have been issued to foreigners and the Sierra Fish Company has been established and currently has 10-14 shrimpers operating.

In Morocco, a deep water fleet was developed beginning in 1972. By 1982, there were 137 trawlers and the government was to able eliminate the fuel subsidy on which they had operated. The new development plan calls for modernization and expansion of the fleet, training and infrastructure development to improve the existing industry, part of which is dependent on foreign crews and bases.

In New Zealand, the extension of jurisdiction also served as a catalyst for expansion in both domestic and mixed operations. Domestic catches rose from 58 782 tons in 1970 to 70 482 in 1975, to 103 000 in 1980. Joint venture catch in 1980 was 121 000 tons. Exports in tons rose from 10 596 (worth NZ$ 17.3 million) in 1970 to 14 494 (worth NZ$ 25.7 million) in 1975 to 110 461 (worth NZ$ 162.4 million) in 1980.

In Australia, the extension of jurisdiction also stimulated additional investment, especially in prawns, tuna and other fin fish. Joint ventures were negotiated with Japan and Taiwan. Most of the growth in catch occurred however in the traditional fisheries where production rose 25% between 1979/80 and 1982/83 due to additional investment.

Thus, in all these countries the effect of the extension of jurisdiction was accompanied by an expansion of effort both national and foreign. While in some areas, this immediately resulted in increased catches and sometimes increased value, in many cases problems have arisen due to resource limitations and the difficulty of implementing effective management schemes. These resource limitations and attendant problems have become apparent in the expansion of effort in pursuit of traditional species, in the expansion of small-scale fisheries further from shore and in increased effort in the expanded EEZ. A distinction is made in this discussion between resource limitations regarding traditional species and small-scale inshore fisheries and resource limitations within the extended zone.

2. Resource Limitations

a) Traditional Species and Inshore Effort

In Peru, a domestic sardine fishery replaced the anchoveta fishery when that species disappeared. After 1977, the area experienced major growth based on the availability of the resource and the decline of the sardine banks off South Africa. By 1980, Peruvian sardine production was 31% of the world market. However, as it was recognized that there was over capacity both in terms of the fleet and the world market, catch regulations were instituted at that time. In 1983, as a result of El Nino, the fishery collapsed.

Ecuador also suffered the effects of El Nino which severely reduced the availability of the pelagic fish. Shrimp became more abundant but the small boats and processing facilities which use the resources had been severely damaged by bad weather. For other species, the canning operations were operating at 40% capacity which could be an indicator of resource limits.

In Mexico, recently, while the number of shrimp vessels has increased, the catch has remained the same indicating a resource problem in this area.

In New Zealand, the inshore fishery underwent a major expansion in the 1970's. By the time of the declaration of the extended zone in 1978, it was facing severe resource constraints compounded by economic problems. In 1978 management efforts were aimed at protection of specific species. While this afforded some protection to those species, it did not result in a reduction of effort. As pressure on other species developed, a moratorium was declared on the issuance of new permits. However, catch per unit of effort is still declining so that many operations have become unprofitable. The government is now considering the possibility of buy-outs followed by the issuance of transferable quotas as has been done in the offshore fishery (see below).

Generally, in the CECAF area, the number of canoes and their catch is increasing as is the activity and catch of the inshore and near-water vessels. However, inshore fisheries pressure on scarce resources has led to conflicts in The Gambia where the small-scale fleet and the large-scale fleet are competing for the same resource and market. The government has proposed a plan to integrate these operations. Senegal has also experienced conflict between the small-scale fleet and the industrial fleet.

b) EEZ Effort

i) Constraints

Management of the resource within the Chilean EEZ is difficult because of the absence of data. While early joint ventures involved resource surveys, foreigners fishing outside the Chilean EEZ do not provide

satisfactory catch data to assist in the assessment of the pelagic fishery An early attempt at resource management within the EEZ based on catch quotas was not effective and in fact led to overcapacity and a short fishing season. The government is now moving toward a system of limiting catches and allocating individual catch quotas based on past use of the resource.

Early regulation efforts in Peru were inadequate and allowed the overfishing of anchoveta, hake and sardine. The sardine resource is now well-protected from overfishing. Regulation of the foreign factory trawlers which exploit hake was instituted in 1981. The regulations cover conditions of ownership (foreigners must have a contract with a State owned company in order to obtain a license), as well as catch quotas, gear limitations and area limitations. The result has been a reorganization of the fishery to the benefit of the industry and the resources.

Peru also adopted new regulations on the exploitation of tuna in 1982. The primarily foreign tuna vessels are now subject to procedures governing the size of the fleet, the obtaining of fishing licenses, the reporting of fishing data, catch limits and the establishment of zones reserved for the national fleet.

The Mexican tuna fleet also fishes off the coast of Africa due to seasonal variations in the tuna resource within the Mexican EEZ.

In the CECAF area, the exploitation level for many stocks may be at the upper limit and there is a need for management. Senegal has indicated a need for research. Regulatory measures are already in place but there is a need to improve surveillance. In The Gambia, there is concern because of the small size of the EEZ and the number of vessels fishing there. There does not appear to be overfishing except possibly for crustaceans. Management is difficult due to the absence of catch data from vessels which fish the waters of The Gambia and Senegal. The Gambia has set limits on the size of foreign trawlers and purse seiners.

Sierra Leone lacks information on the state of the resource within the EEZ. The number of vessels operating within the EEZ has decreased; surveillance problems remain.

In Australia, the expansion of activity which accompanied the extension of jurisdiction resulted in an accentuation of the problems of overcapacity. In the South-east trawl fishery, the number of vessels increased from 88 to 132 between 1973 and 1981; however, there was little increase in the overall catch. A similar situation occurred in the east coast prawn fishery where the number of boats doubled between 1973 and 1981 and the proportion of larger vessels within this number also increased. This fishery is likely to be affected by changes in the management plan for the northern prawn fishery. A limited entry scheme was introduced in that fishery in 1979. The result was an increase in the size of vessels in the fishery. The increase in capacity combined with a cost/price squeeze led to a review of the management plan and the development of a new one which will control total capacity of the fleet, allow for transfer of units of fishing capacity between fishermen and provide for the retirement of vessels. Similar plans are being discussed for all other domestic fisheries which are now governed by less effective management plans. The southern bluefin tuna resource which is exploited by Australia, New Zealand and Japan may be overexploited. Australia is engaged in discussions with Japan and New Zealand on a cooperative approach to resolving this problem.

The development of mixed fishing operations in the New Zealand EEZ resulted in pressure on the resource. Trawlers concentrated on the most valuable species and the imposition of quotas and restrictions proved ineffective. At the same time, the New Zealand government encouraged the development of national capacity to harvest the resource withing the EEZ.

The ensuing overcapacity led to a review of existing policies. The conclusions of this review were that the overall profitability of the deepwater fleet was marginal, that pressure was very heavy on the valuable resources, that management schemes had resulted in inefficiency and uncertainty on the part of fish companies and that the administrative involvement in the fishery should be limited to resource conservation. As a result, New Zealand instituted a new management scheme based on a system of transferable quotas or company allocations. Quotas were allocated to companies with a demonstrated commitment to deepwater resources and whose processing operations were dependent on these resources. This new system has been effective in reducing overcapitalization and reducing pressure on the resources.

In regard to resources outside the various EEZs, Chile and Argentina have expressed concern that operations just beyond their EEZs are depleting their EEZ resources. The Gambia with its small EEZ has also expressed concern regarding efforts in the bordering Senegalese EEZ.

ii) Opportunities

Even though there are resource limitations for several of the stocks, there are still significant opportunities for many of these coastal States to derive much greater benefits for themselves by expanding their domestic capacity, or by extracting greater revenues from foreign fishing. The most noteable opportunities exist in the area from Senegal, north to Morocco, where distant water vessels still take the major share of the catches. Argentina is also estimated to be a significant potential gainer from the extension of jurisdiction. Peru is planning to convert its fleet to enable it to exploit mackerel and horse mackerel which are currently being fished by foreigners. Peru is also examining the possibilities of cephalopods within the EEZ and encouraging midwater fishery through the leasing of foreign trawlers. Ecuador plans research in its mid- and deep-water resources. Mexico indicates unused potential in the "scaled fish" and sardine fishery as well as the need to study mid- and deepsea potential. Australia is exploring the potential for new species. New Zealand has already been successful in creating a market for previously unknown species.

3. Economic Conditions

International economic conditions had a serious effect on all these coastal states. As noted above, the fishing industry tends to have a weak financial structure which makes it vulnerable to world economic conditions. Thus, fuel price and interest rate rises had their impact. In addition, the expansion which accompanied the extension of jurisdiction made the fishing industry in most of these countries even more vulnerable. In a number of situations, domestic economic difficulties exacerbated the problems.

Prior to the 1974 oil crisis, the Argentine fishery industry had engaged in a major expansion. With the oil crisis and recession, traditional European markets declined. Strong competition among fish sellers plus excess supply led to a decline in prices. Argentine enterprises were forced to sell off as much stock as possible as quickly as possible in order to meet debts which were coming due on the recent expansion of the fleet and processing capacity. Argentina is self-supplying in oil. However, declines in fish and particularly in meat exports resulted in balance of payments problems. Exchange rate adjustments led to increased costs, lower profitability and bankruptcies in the export industry. 1976 saw a partial recovery as fish prices rose and a more realistic exchange rate was used. This, together with the momentum accompanying the extension of jurisdiction, led to a renewed expansion of the high seas fleet and the upgrading of processing plants.

Between 1976 and 1979 the industry boomed, exporting primarily to Spain, Japan, Brazil and the U.S.; by 1978 Spain was the main purchaser of Argentine exports. In 1979, Spain cut prices and set up import barriers. In addition, the large squid harvest of 1978-79 which realized high prices in Japan contributed to the saturation of the market in the following year. With interest rates rising, the Argentine debt grew accompanied by internal economic problems. By the second half of 1980, 75% of the processing fleet was idle. A new market was opened in trade with Nigeria but little else was positive.

In December 1980, new economic management in Argentina helped establish a more realistic exchange rate and the ability to cope with the problems of inflation. An examination of the industry led to refinancing with government guarantees. Recovery was uneven due to financial problems of the trawl fishery but there was recovery with exports reaching US$ 185 million which was 86% of the 1979 figure. These exports included a new product, shrimp. However, from April 1983 on, this upward trend was reversed. Argentine products suffered in their traditional European markets as a result of lower priced foreign factory ships' production. In addition the industry still suffers from the financial problems of the previous crisis making new financing difficult.

The international recession also affected Chile. It forced a reorganization of the large-scale fishing industry which resulted in diversification of the reduction industry to include a very high capacity canning operation. There was a serious negative impact on the medium- and small-scale processing and export industry which preserves and freezes shellfish and even more so on the small-scale suppliers of this industry.

World economic conditions contributed to an industry in crisis in Peru. In the last three years the canning industry has suffered sizeable losses, loss of liquidity and assets. This has resulted from a decline in exports in 1982, particularly to the South African market; high increases in financing costs due to increases in interest rates; high inventories reducing operating margins; and shortage of sardines due to El Nino. The frozen fish industry has also suffered a sharp drop in the volume of exports, despite higher prices, due to the repeal of tax incentives.

Ecuador, despite being a member of OPEC, has suffered from higher prices and internal economic problems which finally forced a mini-devaluation.

In Mexico, the fishing industry appears to have survived the 1982 economic crisis. However, the industry has a lack of working capital since profits are not re-invested but rather channelled to other activities. The tuna situation is particularly difficult as the expansion was financed in dollars leading to higher debt and repayment costs. The government recently re-scheduled this debt. The cost of fuel has also been a problem for the industry. Costs rose in 1981-82 when an implicit subsidy was reduced. The 1982 devaluation had a serious effect on the tuna and "scaled fish" fleet where fuel is animportant part of operating costs. Small-scale fishermen were most affected by the rises in the cost of fuel.

The CECAF area also suffered from the rise in fuel prices and interest rates. For Senegalese fisheries over the last five years, fish prices have risen by an average of 10% while operating costs have risen 25%. In The Gambia, fuel is not subsidized and increases in fuel prices as well as interest rates have affected the small-scale fleet. In Sierre Leone, high interest rates and especially fuel prices had a negative impact on the fishery.

In Australia since 1980 there has been a down turn in the economic performance of the fisheries industry. Costs, especially fuel and interest rates, have risen sharply while prices have not. Fuel prices increased

110% between 1979-82 and are expected to continue to rise through the 1980's. Rising costs and increased competition in both the export and domestic market have led to a cost/price squeeze; competitiveness in the export market has been eroded.

In New Zealand, increased costs have had a serious effect on the inshore fishery. In 1982 the government increased the tax on fuel and on items for repair and maintenance. This increased the cost of catching by 6-7% at a time of static or declining catches. The most serious effect has been on the inshore trawling fleet; it is estimated that 40% of the inshore fleet is losing money.

B. NATIONAL STRATEGY

1. Marketing and Processing

All of the coastal States in this category indicate the need to improve marketing effort for export and/or internal markets. This includes improved processing capability both in terms of quality control and value added and adjustments in processing possibly as a result of access to new species. In addition, agreements with foreigners tend to include requirements for greater local landings to make use of underutilized processing capacity, to obtain more resource information and to derive more benefit from the value added.

Argentina currently requires the construction of land-based factories as part of joint company arrangements. In addition, Argentina has functioned primarily as an exporter of fish. Thus, when international economic problems compounded by internal crises decreased the international market for their product, they could not turn to a domestic market. Their goal is now to develop an internal market to reduce this dependency.

Chile is also primarily an exporter of fish products. The fish meal and oil sector which constitutes 70% of the total is well organized and successful under CORPECA, an umbrella organization of producers. Ocean products (canned, frozen, fresh seafood and seaweed) are sold by uncoordinated producers to well-organized buyers. The industry is attempting to organize the selling effort. The government has established PROCHILE to promote Chilean products and provide marketing information. Chile intends to move toward more frozen and canned output with better value added. Peru suffers from poorly organized international marketing and plans to strengthen this effort through better information and training.

In Ecuador, quality control is a priority. There is also a recognition of the need for external market diversification as, for example, 95% of the shrimp exported goes to the U.S.

In Mexico, the new monetary parity should lead to increased demand in the export market. However, additional work is needed on marketing and food technology. Internal consumption of fish trebled in Mexico between 1973 and 1982. This increase partly resulted from the rise in meat prices but also from marketing strategies which were a part of the development of the fisheries industry. There are still some distribution problems in the system. Mexico also needs to improve the utilization of the installed processing capacity.

The Senegalese government established an agency to assist the industrial fishery in increasing exports through the development of infrastructure, improved processing facilities and quality controls and the development of marketing joint ventures and other means. In the small-scale fishery, another agency assists in marketing and has been successful in helping to reduce post-harvest losses; however, there is a need to move more into non-industrial processing and to improve consumption and distribution inland.

The Gambia plans to move into the international market and needs to develop onshore processing capability. There are two government projects planned for action in this area. In the private sector there is a successful company which buys shrimp from artisanal fishermen for processing and export; another company has now begun to operate. There is also a need to improve supply and marketing for the domestic market.

The government of The Congo plans to improve processing capability. There is also an integrated programme to develop all aspects of the small-scale fishery.

The Moroccan Five Year Plan provides for government encouragement of investment to develop infrastructure which can be used by the high seas fleet which is not based in the country at this time.

2. Management and Development

All these coastal States either have developed or plan to develop national capability to harvest the resources within the national EEZs. They also recognize their responsibility for conservation of the resource. Many management schemes have been implemented - with varying success. In a number of cases, the countries feel that they need more information about the resource.

Argentina has the capability to fully exploit the resource within its EEZ. It intends to do this and offer the world what is not needed domestically.

The Chilean government has implemented a fisherman quota scheme which authorizes the taking of a percentage of the catch based on past use of the resource. It is believed that this scheme will help rationalize the exploitation of the fishery by allowing fishing companies to make long-range plans. The government has been moving away from other involvement in the industry.

The Peruvian national strategy aims at the diversification of fishing effort and product. Plans involve the conversion of ringnet vessels for midwater trawling of mackerel and horse mackerel, exploration of the potential for a cephalopod fishery and encouragement of midwater fishing through the leasing of foreign trawlers. While all fisheries are currently regulated, Peru will further study the resources and the effect of El Nino. Other plans are to readjust and redistribute processing capacity along the coast and to improve marketing.

Ecuador plans to intensify development of the fisheries, to implement better quality control in processing and diversify their markets. They also plan to improve management. In Mexico after the rapid development of the fisheries sector resulting from the extension of jurisdiction, plans are to improve its marketing both for export and internal consumption. Additional projects have been delayed by the current national crisis.

The Senegalese government plans to improve the organization and means of production and processing of the small-scale fleet. In the industrial sector, it plans to modernize the fleet through the acquisition of tuna vessels and deepsea trawlers, to improve processing and export efforts, to improve the financing system, and the improve research and surveillance. It also proposes to improve cooperation with neighbouring countries which share the same stocks and to limit the number and duration of future joint venture agreements.

The Gambia plans to emphasize research on resource availability, to further develop the fish industry and to expand private participation in this sector. The Congo also plans further development of both the small-scale and industrial fishery. Sierra Leone has established a

national fish company; it has plans for the establishment of a Fisheries Authority, port development and development of artisanal fisheries.

Morocco recognizes the need for stock management policies and more resource evaluation. The Five Year Plan emphasizes training in all aspects of fisheries, state encouragement of investment in infrastructure and fleet renewal and modernization. New laws provide a state support system for people engaged in fisheries.

Both Australia and New Zealand have implemented management schemes to reduce overcapitalization of the fishery and conserve the resource. Australia is examining the possibility of developing new resources.

VIII. CATEGORY IV - COASTAL STATES WITH ALREADY FULLY EXPLOITED RESOURCES DOMESTICALLY

In a number of coastal States the effect of the extension of jurisdiction can be said to be neutral because the resources available within the extended zone are essentially fully exploited domestically. In addition, the fisheries effort tends to be overcapitalized, particularly in the inshore areas. The States included in this category are the Philippines, Malaysia and Bangladesh.

In the Philippines, the traditional small-scale fisheries are important to the economy as a provider of food, employment and income to a substantial percentage of the population. In Malaysia, fisheries provide 57% of the national animal protein supply. In 1980, it provided employment to 2.3% of the labour force and contributed net foreign earnings of US$ 127 million or 2.2% of the balance of trade.

In Bangladesh, inland fisheries had traditionally provided 80% of the national animal protein. With the decline in inland fisheries, marine fisheries have come to be regarded as a potential source of protein. Fisheries products have made up 5% of the GNP and provided 7.6% of export earnings.

A. SIGNIFICANT DEVELOPMENTS

1. Effect of the Extension of Jurisdiction

In the Philippines and Malaysia fisheries developed a certain momentum in the 1970's which was probably connected to the new awareness of fisheries which resulted from the UNCLOS meetings. A Presidential Decree in 1975 in the Philippines called for the promotion of the integrated development of fisheries and maintenance of the resource. This resulted in a great deal of planning activity, all of which recognized the importance of the traditional small-scale fishery and stated a need for more resource and potential opportunity information and for more enforcement capability. A more tangible effect was the extension of the commercial fleet to deeper water areas. The local fleets fishing for tuna and small pelagics were encouraged to fish farther out; the existing fleet of purse seiners and longliners was to be augmented, with a goal of 81 additional catchers by 1982 and 178 by 1988. Joint ventures containing limitations as to areas fished, species to be caught and gear were negotiated with several States .

Over all, both the number of vessels registered and the tonnage increased between 1978 and 1982. The number of catcher vessels increased 4.6% per annum during this period; the number

of accessory vessels increased 48% per annum. Gross tonnage increased 12% per annum. As will be seen below, some of this capacity is now idle.

In Malaysia during the 1970's the government assumed a major role in the development of fisheries. The government promoted development through the construction of a series of centralized landing facilities along the coasts and of wholesale and retail centers in urban areas. Government programmes aided in the expansion of the fleet: a hire purchase scheme was developed for trawlers and seiners; and, various subsidies were implemented for the artisanal fleet for boats, gear and motors. Between 1970 and 1980, the total fleet increased from 20,000 vessels to 30,000 vessels and the percentage of the fleet that was motorized grew from 74% to 82%. In addition, supporting industries developed in ice manufacturing, repairs and servicing and processing.

In Bangladesh, the major expansions in fisheries efforts began in the 1960s as a result of various foreign aid programmes. The extension of jurisdiction resulted in the negotiation of some joint venture arrangements.

2. Resource Limitations

In the Philippines there is a lack of information as to the state of the resources. It appears that tuna and some pelagics may bear further exploitation while the demersals may be overfished. While the tuna catch has been growing, the overall decline in catch has been 18% since 1978. Resource limitations in the offshore areas led some fishing companies to seek access elsewhere - Papua New Guinea, other Pacific Islands and Sabah.

In Malaysia there is limited data, but it appears that all species (pelagic, demersal and shrimp) are overfished. Landings of demersal fish, taken within 12 miles of the coast, totalled 100 000 tons in 1970. In 1980, the catch had increased to 210 000 tons. The potential yield estimate for demersal stocks is 213 000 tons. Also, there is an increasing percentage of low valued by-catches in the landings of trawlers and seiners. Further, catch per unit of effort is continuing to decline. The Penang shrimp trawling fleet numbered 280 in the early 1970's, by 1982, there were 100 vessels. The operators state that the decrease in the fleet is the result of higher operating costs and lower catches. Only 15 of the 30 shrimp processors are currently exporting due to reduced supply and, to a lesser extent, quality control problems. Resources beyond 30 miles of the coast also appear to be limited.

Bangladesh resource survey information has been subject to frequent updates and indicates severe resource limitations and overcapitalization.

3. Economic conditions

The fisheries industries in all of these countries have been severely affected by world economic conditions. In the Philippines, these economic difficulties have been further compounded by political and ensuing economic instabilities. The Philippines imports 90% of its oil requirements; thus the entire economy was affected by fuel price increases. The decrease in the value of the peso has been extreme in the last five years with the most rapid slide in late 1983 with acute balance of payment problems. Altogether this exerted an upward pressure on the prices of imported equipment and raw materials and contributed to a high inflation rate.

For fishery industries the price of fuel was regulated until 1979. Since 1978 the price of gasoline for bancas has increased 250%, diesel fuel for commerical operators has increased 300%. Fuel constitutes 40% of total production costs in the marine fisheries and 70% for trawlers. While devaluation helped some export industries, this activity was dampened by new export taxes. In addition, exports are suffering from tightness in the supply of funds due to high interest rates and scarcity of foreign exchange for vital imported inputs.

In Malaysia, the price of diesel fuel has risen 278% since 1972. Fuel constitutes an average of 50% of the total operating costs for fisheries activities involving all types of gear. The general recession and increased costs have also had an effect on the marine diesel engine business, on net manufacturing and on fish meal factories. Purse seiners catching pelagics like horse mackerel seem to be surviving but there has been a reduction in the size of the fleet due to the cyclical changes of catches.

In Bangladesh, the fragile economy has been severely affected by world economic conditions. Inflation, devaluation of the national currency and increased costs of fuel have combined to drive up the costs of production.

B. NATIONAL STRATEGIES

1. Marketing and Processing

The export of fisheries products is an area of hope for the Philippines. Between 1976 and 1981, fish exports increased on an annual basis both in terms of volume and value. However, 1982 saw an 18% drop in volume. Shrimp and tuna contribute most to exports in value terms but both face uncertain markets. Tuna - both frozen and canned - has been particularly subjected to market instabilities. In addition, beginning in 1982, the canneries began to experience shortages in supply and were forced to import raw materials. Government taxes on these imports have not helped the industry but changes are being considered. In addition, export taxes on both tuna and shrimp have been increased.

Shrimp is also a major export item for Bangladesh. At present only 20% of the processing capacity is being used. Operating costs have risen while prices have not. Quality control and packaging have been problems, as has the lack of information on the market and pricing.

2. Management and Development

The economic crisis continues to affect the Philippines and the fishery industries, particularly marine. Currently, most of the long-liners and some purse seiners from both the national fleet and joint ventures are idle. These vessels have fished tuna, exports of which have been the main support of the deepseas segment of the fisheries industry. Problems with enforcement and control have inhibitied further development of relations with foreign fishing companies. Sea-use planning and coastal zone management programmes are under deliberation and it is hoped that this together with major economic reforms (including export policy) will help to put the fisheries industry on a more solid footing.

In Malaysia, government policy is undergoing a complete reversal. It is recognized that the fishery is overcapitalized, that government subsidies have been counterproductive and that previous resource conservation efforts have not worked. The modernization of the fisheries resulted in a short-term gain that cannot be sustained. The current strategy is to move the fisheries sector away from subsidies toward a commercially oriented foundation. A licensing scheme has been adopted and systems of property rights and buy-outs are being considered.

The Bangladesh government's current Five Year Plan calls for more and larger vessels.

IX. CATEGORY V - SMALL DEVELOPING ISLAND STATES

The effect of the extension of jurisdiction on coastal States with fisheries resources and only the beginning of a national effort to harvest these resources has been both significant and positive. There are benefits to be derived both from access fees from foreigners and from the national effort. The coastal State included in this category is Kiribati.

With the depletion of phosphate, marine resources represent the only potential for the achievement of economic self-sufficiency for Kiribati. The potential benefits derive from both revenues and employment.

A. SIGNIFICANT DEVELOPMENTS

1. Extension of Jurisdiction

The initial effect of the extension of jurisdiction was an awareness of the need to ensure adequate benefits through collection of access fees from distant water fishing nations. There was also an awareness of the long term benefits to be derived from the EEZ from the development of a national tuna fishery. Thus, fisheries development was viewed in expansionary terms. Kiribati established its national fishing company (Te Mautari, Ltd.) in 1981 with two pole-and-line vessels. These vessels captured 500 tons of fish. By 1983, two smaller pole-and-line vessels had been added and total production reached 1 871 tons. This production was limited by lack of adequate cold storage space. It is estimated that production will reach 2 500 tons in 1984. The company has also helped artisanal fishermen by setting prices. Purchases were 270 tons in 1981 rising to 430 tons in 1983. Thus, total production reached 2 300 tons of which 150 was consumed domestically and 2 150 exported for canning.

Traditionally, Taiwan, The Republic of Korea and Japan have fished Kiribati waters. Due to the recession in the tuna industry, Taiwan and The Republic of Korea do not currently pay access fees. Japan continues to pay access fees and operate in the area but at a reduced level of effort.

Due to more effective surveillance in Central and South America and falling catch rates, the U.S. purse seine fleet has begun to fish Kiribati waters. The advancement in the technique of catching tuna by purse seines has opened up a potentially large fishery. Revenue from access fees from the U.S. and Japanese agreements currently amounts to US$ 2 million.

2. Resources

Resource limitations do not appear to be a problem for Kiribati. The limiting factor for skipjack is probably market demand which may stay at a level below the maximum sustainable yield for some time. Some yellowfin are taken by longliners and many by seiners, it is possible that there is a resource problem for this species. Other tuna - bigeye and albacore - may be at MSY but represent only 10% and 1.5% of total annual production.

Since domestic exploitation of tuna is still very limited, conservation requirements are primarily in regard to foreign efforts. While catch limits are not necessary at this time monitoring is conducted in cooperation with neighbouring island States through the South Pacific Forum Fisheries Agency.

3. Economic Conditions

World economic conditions have had a major effect on Kiribati both in terms of the ability to negotiate joint venture agreements and in the development of a national fishery effort. In 1979-1980, existing pole-and-line operators in the South Pacific were experiencing economic difficulties due to rising interest rates and inventories and falling prices. They therefore did not respond to government explorations of joint venture possibilities. Because of this lack of response, Kiribati decided to establish its own national fishing company. Interest rates did not represent a problem as the company was financed with grant funds. However, fuel prices have been a significant problem. The costs of shore storage, fuel for catcher vessels and fuel for artisanal fisheries have all risen and have had a negative effect.

B. NATIONAL STRATEGIES

1. Marketing and Processing

The national fishing company currently guarantees its market by operating under contract with a major canner. The decision to operate in this manner resulted from several factors. First, a shortage of fresh water limits processing to a basic level, whole frozen. Second, the geographical remoteness and small size of the country result in a lack of regular shipping and a charter carrier must be used. Finally, production levels do not merit larger effort.

Since 1981, tuna prices have fallen dramatically due to high inventories and the low price of competing goods. Nevertheless, the fish company broke even in 1983. As indicated above, joint venture operators suffered from the same market conditions and accordingly reduced their efforts in the region.

2. Management and Development

Kiribati plans to increase the national fleet to eight pole-and-line vessels. Bait constraints limit additional growth using this technique. There are also plans to increase cold storage capacity and to construct a jetty. Now that the purse seining technique has been proven, there are plans for activity in this area.

Kiribati is a member of the South Pacific Forum Fisheries Agency, a regional organization established to coordinate fishery management and development programmes. Recognizing the migratory nature of the resource and the excessive cost of national surveillance, Kiribati signed the Nauru Agreement of 1982 which seeks to optimize revenues from access fees and to ensure effective management of marine resources within the region. The agreement sets minimum access conditions for the region and has resulted in the establishment of a regional fishing register to monitor performance of foreign vessels within the zones of member States.

X. CONCLUSION

Over the past two decades coastal and distant water fishing States have had to adjust to significant changes in the environment in which fisheries operate. These changes involve the extension of jurisdiction with the coming of the new regime of the law of the sea; the appearance of resource limitations; and, international economic conditions involving oil price increases, a problem in itself, as well as resulting inflation and recession.

For distant water fishing nations, the extension of jurisdiction has had a significant negative effect forcing dislocations of the fleets and leading to overcapacity. Joint agreements have not provided a basis for rational planning nor have efforts on the high seas. Returns to domestic waters have placed serious pressure on domestic resources. The dislocations of the distant water fleets were accompanied by increasing costs of operation resulting from rises in fuel prices, wages and interest rates. The results of all these changes were a decrease in the quantity of catch, a change in the composition of the catch to lower value species and a retrenchment in the fleets and, where replacements were made, construction of more efficient vessels. In a number of cases, these nations plan to continue a distant water effort. A number also plan to improve the management of the domestic resources and to develop new resources.

For developed coastal States with significant existing national capacity, the extension of jurisdiction generally had a positive effect in that it reduced or eliminated foreign competition for resources. However, resource limitations combined with increased capacity have often tended to erode the benefits to be derived from the new regime. These States all have experience with regulations regarding resource exploitation. However, many of these schemes have been ineffective in controlling fishing effort or in resolving conflicts between economic and social goals. In this situation, the changes in the world economic conditions have had a severe impact.

For developing coastal States with resources to exploit and moderate national capacity, the extension of jurisdiction has had a significant positive effect in both the derivation of benefits from foreigners and in the development of national capacity to harvest and manage the resources within the EEZ. In all these States the extension of jurisdiction was accompanied by an expansion of activity - both public and private - and increased catch. However, in some cases, it also led to an increased recognition of resource limitations.

In some areas, resource limitations in the inshore fishery have become acute resulting in economic inefficency and conflict between the small-scale and industrial fleets. All of these States have indicated the need for fisheries management within their extended zones. Various management schemes have been tried and some subsequent ones have been effective. Many States indicate the need for additional resource information and better surveillance. In some areas there are still benefits to be derived from under-exploited or new resources.

World economic conditions severely affected the fishery industries in these countries because of the expansions which accompanied the extension of jurisdiction. All of these States place an emphasis on improving their marketing efforts both for the export market and for the domestic one; this effort includes improved processing. Most plan for additional fisheries development but are also emphasizing improved management.

For those coastal States with fully exploited resources domestically, the effect of the extension of jurisdiction has been neutral. All experienced a momentum for expansion during the 1970s, and began to face serious resource limitations. World economic conditions severely affected these States and their fishery industries. These States recognize their overcapitalization problems and need for management plans.

For coastal States with resources and only the beginnning of a national effort, the extension of jurisdiction has had a significant positive effect. The declaration of the extended zone permited them to acquire revenues from foreign fishermen and helped stimulate the development of a national fishing capacity. Resource limitations do not appear to be a problem. All efforts - domestic and foreign - were affected by economic conditions. Plans are to increase the national effort and to continue regional cooperation in fisheries management including conditions of access and monitoring of foreign effort in exploiting the resource.

For coastal States in general, the extension of jurisdiction provides for greater authority to manage the resources and in almost all cases plans are underway to achieve more effective utilization of the resources.